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At the Bureau of the Census, the work was under the general direction of Conrad Taeuber, Assistant Director for Demographic Fields, and was conducted under Robert B. Pearl and Daniel B. Levine of the Demographic Surveys Division. George E. Hall had major responsibility for planning and supervision of the overall survey; Lillian I. Hoffman was in charge of data processing. Joseph Steinberg, Robert H. Hanson, and Garrie Lossee, the Statistical Methods Division, were responsible for sampling and quality control aspects of the survey.

Part I, chapters 1 through 6 were prepared by Abbott L. Ferriss; chapters 7 and 8 were prepared by Betty C. Churchill; appendix A was the work of Charles H. Proctor, Department of Experimental Statistics, North Carolina State University, Raleigh, N.C., and a member of the ORRRC staff during June-August 1960. Appendix B was prepared by Daniel B. Levine of the Census Bureau.

The tabulation plan for the tables presented in part II was developed by Charles H. Proctor, and the calculations for the presentation of the statistics were prepared under the supervision of Betty C. Churchill by Mrs. Lois E. Zazove, John T. Fuston, and Donald L. Romine. Typing of tables and text was accomplished by Mrs. Catherine G. Hart, Julia A. Schmidt, Lillie A. Synan, and Mrs. Barbara Ann Kessler.

Part 1—Outdoor Recreation, 1960-1961

CHAPTER ONE

INTRODUCTION

In the planning of this study, it was assumed that participation in a given outdoor activity is predictable from the social and economic characteristics of the participant. We proposed to explore these relationships through examining the rates of participation, expressed as days per person, of the population 12 years of age and over classified by age, sex, family income, region, size of place of residence, color, education of the population 25 years and over, occupation of the labor force population 14 years of age and over, health, and impairments of the individual.

In addition, we assumed that the unfulfilled demand for an outdoor recreation activity is reflected in preferences for the activity, even though the person may not participate. Consequently, we proposed to examine the pattern of preferences for outdoor activities as expressed by the population, both in terms of the activities generally preferred (1st, 2d, and 3d choices combined), and preferences expressed in terms of particular outdoor occasions. The latter are a vacation, a trip, a day's outing, and an occasion of only 2 to 3 hours duration. For the summer season only, some of the socioeconomic characteristics of the population may be examined in relation to their preferences. Factors negatively affecting participation also are included by asking, for preferred activities, "Why don't you ... more often?"

Outdoor recreation of "public" importance, that is, which has an impact upon resources available to the public, takes place away from the residence of the person. This excludes all activities taking place on the premises near his home. Since to engage in such activities requires a "trip" or movement, usually by automobile, to a place to engage in the activity, we assumed that various characteristics of types of excursions would provide information useful for prediction. In addition to conceptualizing such excursions as vacations, trips, and outings, a categorization which the Census Bureau found useful for interviewing purposes, each of these occasions are examined in terms of expenditures, distance traveled, and other selected characteristics.

Some forms of outdoor recreation are not possible unless equipment is owned or available. The survey determined the presence or absence and use of 13 fairly common items of outdoor recreation equipment.

Available leisure time is also likely to affect participation in outdoor recreation. But we cannot assume without further reservation that higher income would make possible more leisure time. Consequently, an estimate of leisure time available and spent on outdoor recreation was obtained from each respondent for the most recent weekday ("yesterday"), for one of the days during the last weekend, and for the last national holiday. These sample time periods, affected as they are by seasons of the year and other factors, nevertheless provide a reasonable basis for seeking differences among population categories in the availability and use of leisure time outdoors.

The health and the presence or absence of physical impairments of the person might affect the degree of his participation in outdoor activities. These concepts are too complex to measure definitively, and since we were primarily interested in other variables, we were content to accept the respondent's definition of these conditions. The resulting general categories do not afford a highly refined analysis of the relationship of health and physical impairments to outdoor participation, but they do give a general assessment.

The major plan of analysis, then, is to examine outdoor recreation activities, one by one, in terms of the socioeconomic characteristics of persons who engage in the activities or prefer the activities. Broadly speaking, the hypotheses herein examined are as follows:

HYPOTHESES

Generally, there are predetermined characteristics of the recreation activity which condition participation in it. Various classifications of activities were explored with the objective of establishing a basis for analysis resting upon activity characteristics. For example, the size of the land or water area required for participation is one basis for classifying activities. Various others were considered.1/ But instead of employing such characteristics to combine activities, it was decided to employ the activity characteristic as a possible explanation of relationships between participation and socioeconomic characteristics. To systematize such an attempted exploration, the following aspects of each activity were described qualitatively: time required to engage, monetary costs of engaging, level of physical activity involved, level of skill required, level of prestige or status achieved through participation, and the

1/For example, see: "The Scenic Resources of the Tennessee Valley: A Descriptive and Pictorial Inventory" Knoxville, Tenn.: The Tennessee Valley Authority, 1938. Robert A. McCall, "A Study of Recreation Activity Patterns and Associated Secondary Factors," a thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the School of Education, New York University, 1949. Robert J. Havighurst, "The Nature and Values of Meaningful Free-Time Activity," in Robert W. Kleemeier (ed.), Aging and Leisure. New York: Oxford University Press, 1961, p. 322. Perhaps the most comprehensive attempt at classifying leisure is being done by J. Dumazedier in connection with a "comparative study of the evolution of the forms and needs of leisure, "UNESCO Institute for Education, Bulletin No. VIII, Stresa, 4-7 September 1959, pp. 14-15.

level of continuous learning enabled by participation, and other social factors presumed to motivate participation. 2/

Characteristics of the activity may predetermine or condition participation in the activity. These characteristics are considered in terms of the limits they specify. In each case we assume that the commitment of a person to an activity is related to the ratio between the input necessary to participate and the rewards he perceives receiving as a result of participation. More specifically, the input that an individual must make in order to engage requires time, financial resources, physical activity, and training (in terms of skill). On the other hand, the rewards achieved may be expressed in terms of satisfactions derived from the activity, from status achieved, from satisfactions derived from continuous learning, from physical development, and other rewards. One may consider that the less the input required to engage in an activity, and the higher the relative reward, the higher the participation will be. Conversely, the greater the input required in terms of time, money, physical activity, skill, etc., and the less the reward, the lower will be the level of participation. Consider a young person of excellent health, no physical impairments, and high vitality; an input of physical activity would be of little cost to him and might, in fact, contribute to his reward system; but, since he is young and dependent financially, an input of money might make the activity prohibitive to him. Such considerations lead to explanations of observed relationships. All variables of significance cannot be measured and entered into the analysis, but oftentimes their effect may be inferred. That such attempted explanations lack positive proof does not make them less useful as hypotheses.

Outdoor activities by type are closely associated with season and climate. Effects of climate may be inferred by comparing participation rates by season and region. An annual cycle will most certainly be evident for activities affected by the weather, such as snow skiing, or by cultural (legal) restrictions, such as hunting.

Within a season, there will be regional differences in participation. It is assumed that regional differences will be relevant not only to differences between regions in socioeconomic characteristics, but also to availability of resources in relation to residences to the population. Thus, within a season the resources of two areas may be the same, in terms of per capita unit of resource, but a more concentrated population in one region might predispose it to less participation than a region having the population more widely distributed over its area.

2/ Each activity may be considered a behavior system, subject to analysis through use of a set of constructs. Those set forth here are partial. For a comprehensive system, see: Charles P. Loomis, "Social Systems: Essays on Their Persistence and Change." Princeton, New Jersey: D. Van Nostrand Co., Inc., 1960; and Charles P. and Zona K. Loomis, "Modern Social Theories" Princeton, New Jersey: D. Van Nostrand Co., Inc., 1961.

CULTURAL LIMITATIONS

In addition to ecological distribution, culture may limit participation through norms for behavior which originate in religion, color, legal restrictions, male-female role prescriptions, and other traditions or customs which provide a behavior pattern. For example, hunting participation may be affected by a religious or moral tenet respecting the taking of life, or the freedom to engage in an activity may be denied females but not males because of role definitions. Such cultural factors undoubtedly affect participation.

Organizational factors have their impact, also. Hiking and skiing clubs provide channels for learning and the means for status achievement. Hunting and fishing leases make the resources available to groups. The types of groups—families, young male adults, older males, etc.—who engage in an activity condition the type of facilities needed and affect locational factors.

Seasonally, it is expected that the summer will be the period of greatest outdoor activity for year-round activities.

Sex differences are anticipated. It is expected that the more physically active forms of recreation will appeal more to the male than to the female, and that the less active forms of outdoor recreation will find more frequent participants among females than males.

Age is expected to be highly associated with participation in activities. For the more physically demanding activities, it is expected that participation will decline with increasing age. Conversely, activities which are not physically demanding, may be expected to maintain participation levels throughout all age groups, except perhaps the oldest age groups.

Activities requiring space, say hunting, are expected to show a consistent pattern of participation by degree of urbanization. This is based upon place of residence. Distance one travels to engage is a highly significant variable but one imperfectly explored in this study. Distance represents a time and money cost. Data on these cost factors are available, but budgetary considerations prohibited our exploring them fully.

Income will most likely be associated with a wide variety of activities, whether or nor participation in the activity requires a money expenditure. Income reflects social class. Income by place of residence may be more highly associated with participation than income by region, for residence implies a distance-cost factor. Expenditures in relation to income provide a meaningful basis for assessing costs. We analyze these by type of occasion rather than by activity. While this may not be satisfying to someone primarily interested, for example, in camping, it nevertheless acknowledges that a "trip" usually involves several activities and the respondent does not always have available the information to attribute expenditures to particular activities.

Since education creates interests and develops skills, participation in some activities will be associated with years of schooling. One would expect that nature walks will be more highly associated with education than is fishing. Our data on education are presented only for those 25 years of age and over.

Those activities for which the resources to engage are readily available to all, might be expected to show no differences between white and nonwhite, but one anticipates a higher white than nonwhite participation in such activities as swimming, boating, and attending concerts, and comparable activities. This pattern will vary by region. In some regions a greater equality of participation between white and nonwhite will be exhibited than in other regions, depending upon proximity to resources, characteristic income levels, or other factors.

One would expect that health and participation in outdoor activities are closely associated; the person with better health will engage more often in outdoor activities. No causative relationship can be assumed on the basis of the data available, however.

Impairments are expected to impede participation in activities which are physically demanding, but not to impede participation in activities which are not. In fact, persons with impairments which are limiting may engage more heavily in "passive" activities than persons not so limited.

Individuals are expected to have characteristic outdoor recreation participation patterns which are predictable. For example, it is expected that an individual who frequently fishes will have an affinity for other water-related activities. Similarly a person who frequently participates in such activities as sightseeing, driving for pleasure, and attending outdoor sports events, is expected to have an affinity for related urban-centered outdoor activities.

TYPES OF RECREATIONISTS

What types of participation patterns should one expect? To answer this question, Dr. Proctor planned a factor analysis, and hypothesized that it would show a backwoods type, a pattern centered upon boat culture, a "country club to picnic ground complex," and passive pursuits. Slight modification of this scheme resulted from the factor analysis, reported in appendix A. He develops a "score" reflecting participation in each activity grouping. He then attempts to "predict" this score from 30 background characteristics of the population, thereby identifying characteristics which account for a significant part of the variance in the activity score. He actually does this for eight population subgroups for each activity group, for with considerable justification, he assumes that the regression relationship will vary by region and sex (four regions and two sex groups). Results from this work are reported in detail in appendix A, but reference is made to them from time to time throughout the volume.

In exploring association between participation in each activity and other factors, our text is organized around activities, rather than the predictor variables. The activities, in turn, are grouped according to the participation patterns identified through the factor analysis. Because of infrequent participation in some, such as sailing, mountain climbing, etc., or because they are not typically summer activities, some activities were not included in the factor analysis, but they nevertheless have been grouped below with logically related activities. The grouping is presented in the table below:

	Annual days per person	Sum of correlation coefficients
Physically active recreation of youth:		
Playing outdoor games and sports	12.71	3.07
Bicycling	5.17	2.17
Horseback riding	1.25	1.52
Winter sports:		
Ice skating	.55	....
Sledding and tobogganing	.51	....
Snow skiing	.07	....
Water sports:		
Swimming	6.47	3.66
Canoeing	.12	....
Sailing	.11	....
Other boating	1.95	2.97
Water skiing	.41	1.94
Fishing	4.19	1.91
Backwoods recreation:		
Camping	.86	2.07
Hiking	.42	2.15
Mountain climbing	.09	....
Hunting	1.86	....
Passive outdoor pursuits:		
Picnicking	3.53	2.85
Walking for pleasure	17.93	1.76
Nature walks	2.07	2.40
Driving for pleasure	20.73	2.17
Sightseeing	5.91	2.33
Attending outdoor sports events	3.75	2.44
Attending outdoor concerts, drama	.39	....
Miscellaneous activities	.57	....

The first column presents the total annual days participation per person 12 years of age and over and gives an index to the relative popularity of each activity, when defined as we have defined them for purposes of this study. The second column is the sum of the correlation coefficients between the activity and the remaining 14 activities (for which these values are given in this table), and gives an index of the degree to which the activity is associated with the other activities. Thus, swimming (3.66) is more highly associated with the other 14 activities than any other activity, while horseback riding (1.52) is associated least with the 14 activities. If a value does not appear in the second column, that activity was not included in the factor analysis. 3/

The analysis which follows, then, is organized around these constellations of activities.

Tables upon which this analysis is based are presented in a second accompanying volume, part II. Throughout reference will be made by table number to this accompanying volume. In some cases data are rearranged and presented as tables to accompany this text.

Part II also includes a description of the survey design and method, definitions of terms, and tables

3/See appendix A, table 3c.

of sampling variances for some of the statistics. Appendices B and D to part I present evidences of the quality of the survey data.

The present analysis by no measure exhausts the analyses of recreation behavior in America which may be made through the wealth of data which has been collected. It merely introduces the subject and the data of the survey with the hope that others will use it more fully. This may be done with the extensive tables of part II, and with supplementary tabulations of the original data.